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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

April 1, 1944

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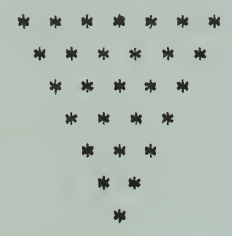

Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

April 10, 1944

SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for

RIO GRANDE BASIN

April 1, 1944

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U.S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service, U. S. Indian Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to March 31	Departure from Normal	Precipitation March	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	3.61	-0.39	0.24	-0.52
Rio Grande	Colorado	11.08	+1.12	2.85	+0.63
Rio Grande (N)	New Mexico	5.91	-0.63	1.90	-0.17
Rio Grande (S)	New Mexico	3.18	-0.65	0.18	-0.44
Pecos	New Mexico	4.33	-0.12	0.11	-0.66

During March the precipitation over the Rio Grande, Canadian and Pecos drainage areas in New Mexico was below normal. Over the Rio Grande drainage in Colorado it was above normal. The totals for these areas since October first last year are also below normal except in the San Luis Valley where the accumulated precipitation is 1.12 inches in excess of normal.

SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1944 Water Content in percent of	
	Eight year Avg.*	1943	1944	Eight year Avg.*	1943	1944		Eight year Avg.*	1943	1944	Eight year Avg.*	1943
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
Rio Grande	29.4	23.3	34.6	9.9	8.1	11.3	24	34	35	33	114	140
Canadian River	14.6	5.2	24.6	4.6	2.0	7.1	2	32	38	29	154	355

*Some for shorter periods

WATER SUPPLY OUTLOOK

RIO GRANDE: Recent snow surveys over the headwaters of the Rio Grande and its tributaries in the San Luis Valley area and northern New Mexico, show the water content of the snow to be 30 percent more than a year ago in the Valley and about 40 percent more in the New Mexico area. In Colorado, at Wolf Creek Pass, Summitville and Cumbres Pass the present water in snow storage is nearly 20 percent over that of last year at this time and 15 percent above the past 8-year average. For the New Mexico area the water content of the snow is about 95 percent of the past 8-year average. Reservoir storage in the San Luis Valley is now one-half the amount held last year at this time and for the El Vado, now at 44,000 acre-feet, is 73 percent of that a year ago. Elephant Butte, together with Caballo, totals 1,431,000 or 72 percent of last year. During March, El Vado gained 6,500 acre-feet and Elephant Butte and Caballo combined, lost nearly 30,000. Throughout the Rio Grande drainage the soil moisture conditions are generally good to excellent except the north part of the San Luis Valley where the soil is dry. Stream flow is normal, ranges fair to good. The present outlook for the coming season's water supply is quite favorable and because of the considerable amount of snow at the lower elevations, the runoff will start earlier this year with above normal stage of streams during June. It is expected that the South Fork of the Rio Grande will have a runoff of approximately 150,000 acre-feet, April-July period, as compared with 80,000 last season. The Conejos will have an estimated flow for this same period, of 200,000 acre-feet as compared with 166,000 last year.

CANADIAN AND PECOS RIVERS: Snow cover on the headwaters of the Canadian now is more than three times that of a year ago while for the Pecos the water content of the snow is the same as last year. It is expected that the runoff from snow cover, Canadian drainage, will be above normal and will add to the present reservoir storage. The Pecos runoff from snow will be slightly more than last season. Surface soils in the Tucumcari area are deficient in moisture and stream flow below normal. The present storage in Conchas reservoir is 294,000 acre-feet, just slightly more than a year ago. For the Carlsbad Project, on the Pecos, the reservoir storage is only 42 percent of that a year ago. Soil moisture in this area is now fair. Stream flow is normal.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued April 10, 1944, at Fort Collins, Colorado

No.	Main Drainage and Snow Course	Local Drainage	Location			Elev.	National Forest	Apr. 1 Snow Cover Measurements					
			State	Locality	Description			Av. Snow Depth			Av. Water Content		
								Av.@	1943	1944	Av.@	1943	1944
	RIO GRANDE							In.	In.	In.	In.	In.	In.
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr.Pass	4-37N-2E	10000	Rio Grande	85.6	73.8	98.2	31.1	30.0	36.8
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	" "	21.9	22.4	34.4	5.5	5.8	11.5
47	Silver Lakes	Alamosa R.	"	1mi.S.Silver L.	15-36N-5E	9600	" "	21.5	18.5	35.2	5.9	4.7	10.5
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "	25.0	20.1	33.3	7.5	6.5	10.6
74	LaVeta Pass #2	SanCristo Cr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	26.0	19.3	30.4	7.7	4.7	9.8
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	Rio Grande	68.5	59.0	80.3	21.1	19.1	25.3
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	73.4	70.3	74.2	28.0	26.3	25.6
80	Santa Maria	N.Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	" "	15.7	20.2	32.2	4.7	8.4	8.9
82	Culebra	Culebra R.	"	12mi.E.SanLuis	37.2N105.2W	10000	SanCristoGr	34.4	14.9	35.2	11.2	5.4	11.0
84	Fort Garland	Big Ute Cr.	"	6mi.N.Ft.Garland	13-29N-72W	8200	" " "	11.6	0.0	11.8	4.0	0.0	2.9
1	Red River	Red River	N.Mex.	6mi.SE.Red.River	29-28N-15E	9500	Carson	26.4	19.6	32.5	9.0	7.8	10.3
2	Taos Canyon	Rio de Taos	"	14mi.E.Taos	10-25N-15E	9000	"	18.0	8.9	20.7	6.1	3.5	6.6
4	Aspen Grove	Rio En Medio	"	10mi.NE.SantaFe	12-18N-10E	9100	Santa Fe	11.9	11.4	17.9	3.7	3.0	5.6
5	Lee Ranch	Jemez Cr.	"	5mi.NW.Bland	3-18N-4E	9050	" "	25.7	17.2	30.4	8.4	5.3	9.4
6	Canjilon	Canjilon Cr.	"	8mi.NE.Canjilon	4-26N-6E	9500	Carson	54.7	56.4	51.7	23.8	24.7	20.8
7	Rio Nutrias	Rio Nutrias	"	10mi.SE.ParkView	6-27N-5E	7900	"	9.5	0.0	10.7	3.0	0.0	2.2
9	Hematite Park*	Red River	"	3mi.SE.Red R.	8-28N-15E	9500	Carson	17.2	5.3	27.4	5.5	2.1	8.4
12	Tres Ritos	Agua Piedra	"	7mi.W.Holman	23-22N-13E	9000	"	16.5	11.8	22.8	5.1	3.2	6.6
15	Pay Role	Spring Creek	"	6mi.SE.Hopewell	23-28N-7E	9700	"	32.8	26.5	33.9	9.9	6.8	10.6
16	Jicarilla	Rock Lake Cr.	"	15mi.S.Dulce	9-29N-1W	8500	JicarillaR.	--	0.0		--	0.0	
17	Chama Divide	Willow Creek	"	6mi.W.Chama	36.9N106.7W	7750	Off Forest	8.8	0.0	10.8	2.9	0.0	2.8
18	Chamita	Chamita Cr.	"	6mi.NW.Chama	36.9N106.7W	8500	" "	30.7	25.3	30.2	9.9	8.7	10.1
19	Cordova	Cordova Canyon	"	2mi.W.TresRitos	22-22N-13E	10100	Carson	42.4	33.0	41.0	13.3	10.3	12.9
20	Panchuela #2	Panchuela Cr.	"	2mi.N.Cowles	27-19N-12E	8300	Santa Fe	7.0	8.8	10.1	2.3	2.9	3.3
21	Big Tesuque	Big Tesuque Cr.	"	10mi.NE.SantaFe	17-18N-11E	10000	" "	20.3	15.5	24.2	7.1	5.3	8.6
					Average for drainage			29.4	23.3	34.6	9.9	8.1	11.3
	CANADIAN												
9	Hematite Park	Moreno Creek	N.Mex.	3mi.SE.Red R.	8-28N-15E	9500	Carson	17.2	5.3	27.4	5.5	2.1	8.4
10	Ocate Mesa	Ocate Creek	"	3mi.E.Black L.	25-24N-16E	9200	OffForest	11.9	5.0	21.7	3.8	1.9	5.8
					Average for drainage			14.6	5.2	24.6	4.6	2.0	7.1

*On adjacent drainage

@Average for period of record.